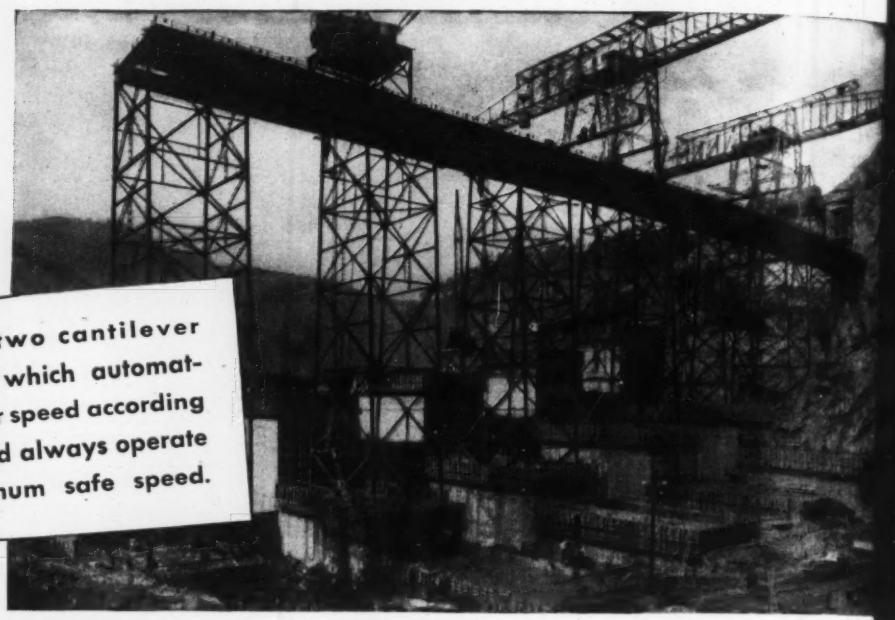
ENGINEERING NEWS-RECORD

Engineer pipeline crew fills cans with gas close to the Italian front

Two Cantilever Cranes That WEIGH THE LOADS They Lift



The story of two cantilever gantry cranes which automatically vary their speed according to the load, and always operate at the maximum safe speed.

By

M. A. WHITING

Industrial Engineering Division, General Electric Company

A NEW type of electric equipment on two large cantilever gantry cranes fulfills the need of a dam builder for equipment which enables him to pour concrete safely at a faster rate than ever before.

These cranes are furnished with 3-phase a-c power supply. They have a 300-foot "wingspread," operate along the top of a trestle 250 feet high, and can handle 4-yard buckets of concrete as readily as you can handle a pail.

The secret of their speed and accuracy lies in their unique hoisting equipment, which in effect weighs each load. The "brains" of this weighing operation is a development called the cross-flux exciter—about the size of a bushel basket. This device measures the load on the crane continuously and automatically, and controls the hoisting and lowering speeds accordingly, operating on the a-c power supply. *The lighter the load, the higher the speed; the heavier the load, the lower the speed—both hoisting and lowering.* This feat has heretofore been considered impossible except by the use of a complicated battery of sensitive load-responsive relays.

When the crane picks up a bucketful of concrete, the operator does not need to worry about safe operating speeds. The crane assumes that responsibility. After the load of concrete has been lowered into position and dumped, the operator returns the empty bucket to the starting point at speeds up to twice as high as those used in handling the full bucket. The cross-flux exciter "feels" the change of load, and controls the speed accordingly.

In case the bucket jams and refuses to budge, the electrical "brain" permits the crane to pull just so hard and no harder. That is to protect against picking up a load too heavy for the crane, which might overtu when the load is trolleyed out the end of one of the arms.

The trolley operation is also u usual in that the customary rela and protective devices are dispens with. Instead, a small motor t size of that on a washing machi irons out the accelerating peak assuring a smooth rate of change speed under all conditions. This is valuable asset in limiting the swi of the heavy bucket while trolleyi

This is another example of the a plication of new techniques to sol a construction problem created t today's needs. If you have a diffic problem where the experience an skill of G-E engineers can be of he we should like to work with you. Ge eral Electric Company, Schenectad New York.

★

The best investment in the world is in this country's future—

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The Week In Engineering and Construction

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Producers' Council offers postwar building program

A 10-point program recommended to Congress to assure full employment in public and private construction following the war.

A ten-point program of Congressional tion needed to assure maximum em- oyment in the construction industry er the war, including recommenda- ns for stimulating private residential nstruction and elimination of un- ential public works or non-productive rk relief projects, was presented n. 27 to the House Committee on ublic Buildings and Grounds by Doug- Whitlock, president of the Producers' ouncil, the national organization of anufacturers of building materials d equipment.

"The federal government should con- rn itself exclusively with such proj- ts as construction of federal buildings, od control and reclamation projects, d federal-aid highways, which are ential and which serve a federal pur- se," Mr. Whitlock said.

"Government spending for non-essen- l public works is unnecessary under y circumstances. Should an expanded blic works program be needed during post-armistice reconversion period at any other time to tide over an employment crisis, there is an enor- us amount of useful public construc- n that can be undertaken if adequate vance planning is done by federal and al authorities. In short, when work ief becomes necessary, the money d effort should be spent to benefit country, not wasted on WPA-type jects which dissipate public funds d bring no real, lasting benefit to the ople.

"We believe also that Congress should truct the appropriate federal offi- ls to prepare a large stockpile of ns for needed but deferable public rks projects which can be initiated short notice, when necessary, to stabilize the construction industry. An industry so important to the national economy and employing as many millions of workers as the construction industry must not be permitted to endure the extreme fluctuations which it has experienced in the past."

Local financing recommended

Local public works should be financed by taxation and borrowing at the level of government which will own and operate the improvements, Whitlock urged, thus placing the responsibility for public improvements at the level where it belongs and thereby avoiding the dangers of a highly centralized governmental control.

"The advance planning of local public works has been delayed, in our opinion, because Congress has not stated the position of the federal government with respect to financing the planning of such work," he stated. "So long as the local governments have reason to hope that federal funds will be available, they will hesitate to use local funds for that purpose. The Producers' Council recommends that, where local political subdivisions require financial assistance for such planning, state or local, rather than federal, funds should be provided. We recommend that Congress adopt that policy and state its position as soon as possible.

"To obtain better performance in shorter time and at lower cost, public construction should be carried out through competitive contracts with private construction enterprise and not through work relief methods."

The 10 points proposed to the committee are as follows:

1. Revise the tax laws to permit deduction of funds spent for advance construction planning as current expense, to provide an incentive for immediate advance planning of all needed private construction, and to encourage community work pile plans.

(*Continued on page* 12)

War building program to be completed soon

Most of the larger projects of the war construction program still unfinished are scheduled to be completed by March 1, and the remainder by the end of June, the War Department has announced. At the beginning of this year, the unfinished part of the program stood at $172,000,000, covering 180 major projects to cost an estimated $112,000,000, while the remaining $60,000,000 will go to complete 2,283 projects costing less than $500,000 each.

In addition to this, the maintenance and repair of Army installations is anticipated for the current fiscal year at $98,000,000. This will include items of new construction costing less than $1,000 each.

Even after completion of the program, the department announcement said, there will continue to be a certain amount of routine war construction as long as the war lasts, because of changing military requirements. For instance, changing an airfield designed for pursuit or light bombardment planes to a heavy bombardment base, will require modification and strengthening of the parking aprons, taxiways, and runways.

Because of the shortage of lumber and other building materials in demand for postwar construction, the War Department anticipates demolishing Army posts and sub-posts which will not be required in peacetime, the materials to be salvaged. Approximately 1100 such posts have been constructed since the beginning of the war.

Business problems foremost at aggregate and concrete sessions

Ready Mixed Concrete and Sand and Gravel association meet in New York to discuss renegotiation, taxation, priorities, air-entraining cements and a new manual

Holding joint meetings on business problems and separate sessions on technical subjects, the National Sand and Gravel Association and the National Ready Mixed Concrete Association held well attended annual conventions in New York last week. The growing importance of business problems was reflected by the fact that more than half the time of the sessions was devoted to taxes, labor, and priorities.

Planned by Otto S. Conrades of the St. Louis Material & Supply Co., president of the N.S.G.A.; Stephen Stepanian, president of the N.R.M.C.A. and Stanton Walker and V. P. Ahearn, director of engineering and executive director respectively of both associations, the program was arranged so that technical meetings of the sand and gravel producers were held Tuesday, sessions of joint interest on Wednesday and Thursday, while the ready mix group discussed details on Friday. About 400 delegates attended the various sessions.

The overall business picture and postwar possibilities were given to the convention by three outstanding speakers. Maj. Gen. Philip B. Fleming, Administrator of the Federal Works Agency, maintained that public works projects will be necessary to take up slack until private enterprise is in full swing, emphasizing that only the federal government can dovetail thousands of separate community plans into a well coordinated national program. Sound plans for useful public works should be at contract stage when the war ends, as there will doubtless be local spots where public works will be required regardless of the general industry employment picture.

Thomas S. Holden, president, F. W. Dodge Corporation, estimated that construction in the first ten years after the war will be 5 percent greater than in the boom years of 1920 to 1929, with construction of private residences in the $6,000 class and highway buildings taking the lead. Mr. Holden declared that the states are in good financial shape and able to declare their independence of Washington in improvement financing and that most local agencies also have been saving money and reducing debts. He warned that the country should not expect or permit federal financing of local improvements on a lavish scale.

Willard T. Chevalier, publisher, *Business Week*, emphasized the danger of war regimentation being carried over into the postwar period. Best antidote for it is a high level of employment in private industry utilizing new materials and the better production efficiency developed through war work. Consumable products of an expanding economy are the answer to postwar employment, said Mr. Chevalier, rather than large-scale public employment.

Specify end product

Bernard E. Gray, chief engineer, The Asphalt Institute, emphasized the desirability of specifying for the end product, in terms of what it is required to do instead of relying on description of component parts. Perhaps stimulated by the Civil Aeronautics Administration specification limiting use of uncrushed fine and coarse aggregate in bituminous pavement, he showed that many inferior aggregates, even porous ones, could be used in properly designed mixes.

Caleb R. Magee of the Association of American Railroads said that the supply of cars for moving aggregates will probably be ample for the expected reduced volume of construction. The situation can be improved by more care in unloading, particularly with clamshell buckets, to prevent knocking the sides and bottoms out of cars.

Air-entraining cements, principally the vinsol-resin type, formed the subject of lively discussion opened by Engineering Director Walker. Because of the property of preventing scaling of concrete pavement, their use is being specified by some agencies. Specifications generally limit the vinsol resin to 3 to 4 percent by weight, resulting in a reduction of weight of the concrete from 4½ to 6 lb. per cu. ft. Apparently this can be obtained with an open-drum paver type mixer with a shorter required mixing time. Mixing in truck mounted units results frequently in entraining up to 11 to 14 percent of air, which may reduce the strength of a particular mix by as much as 50 percent for a 3,500-psi. concrete.

Little research has been done on the subject, but individuals reported that there was little difference due to time of mixing from 15 min. to an hour in the amount of air entrained and likewise no discernible difference in a closed drum, truck-mounted mixer as opposed to the open drum, high-discharge type. Discussion brought out that weight per cubic foot of concrete in a closed drum mixer might drop from 150 lb. to 13[illegible] lb. due to air entrainment, but that if a ⅝ in. diameter vent in the tail gate was open, a weight of 142 lb. could be obtained. One member reported that addition of carbon black, frequently used for reducing the glare on concrete pavement, apparently was an antidote for the bulking effect.

One session of the meeting was devoted to a discussion of a new manual on recommended practices for controlling quality of ready mixed concrete. The manual, of some 60 typed pages, discusses materials, proportioning, batching plants and batching control, mixing, discharge and the like. "Wash" water came in for considerable discussion and an indication that though most truck-mixer operators feel that a better control of concrete might result from discharge of wash water, when used in every batch, few of them actually followed this practice.

Officers for 1944

The National Sand and Gravel Association elected Robert Mitchell of Consolidated Rock Products Co., Los Angeles, Calif., as president to succeed Otto S. Conrades of St. Louis. H. S. Davidson of Pittsburgh and Harris Snyder of Buffalo were re-elected vice-president and secretary-treasurer, respectively. Principal officers of the National Ready Mixed Concrete Association are: Stephan Stepanian, Arm Sand & Gravel Co., Columbus, Ohio, president; Alexander Foster, Jr., Warner Co., Philadelphia, vice-president and Alexander Johnson of Central Concrete, Inc., Brooklyn, N. Y., secretary and treasurer.

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New board of direction of the American Society of Civil Engineers

he new board of direction of the American iety of Civil Engineers is here shown as egan its work on Jan. 20. Around the e clockwise, beginning in the left fore- nd Frank C. Tolles, Raleigh W. Gamble, lin Thomas, Gail A. Hathaway, William Shannon, Dean G. Edwards, William D. Dickinson, Scott B. Lilly, Charles F. Goodrich, Fred C. Scobey, R. E. Bakenhus, A. M. Rawn, Nathan W. Dougherty, T. R. Agg, E. B. Black, E. M. Hastings, V. T. Boughton, Charles E. Trout, (Miss Crook) George T. Seabury, Malcolm Pirnie, newly elected president, Wilbur M. Wilson, R. E. Dougherty, S. C. Holister, Royce J. Tipton. The members elected this year are the president, Malcolm Pirnie, vice presidents R. E. Dougherty and Franklin Thomas, and directors Gamble, Hathaway, Hollister, Shannon, Tolles, Tipton and Wilson. Absent are past-president Whitman, directors Breed, Burpee and McNew.

Contract to finish Madera canal approved

he Sacramento, Calif. office of the S. Bureau of Reclamation announced 28 that contract awards for con- ction of the final section of the dera Canal feature of the Central ey Project have been approved by Department of the Interior.

ontract for extending the canal 2½- orthward from the Fresno river was rded H. Earl Parker of Marysville, f., on his low bid of $172,075. A or portion of the work on this sec- involves the construction of dikes structures to form a 2,300 acre- balancing reservoir.

Teichert & Sons, Sacramento, who nitted the lowest bid on Schedule f the specifications, received the ract award for completing the canal the outlet of the balancing reser- to its terminus in Ash slough near wchilla. The bid was $456,306.

mpletion of the canal and the in- ation of control valves and gates rogress at Friant dam will permit r delivery to thousands of acres of in Madera county during the cur- irrigation season.

e 11-mi. section of the canal al- y under construction is about 50% complete. Engineers reported that work on the Fresno river siphon has progressed to a point where there is little danger that seasonal floods will delay construction.

At Friant dam, two 84-in. valves borrowed from Boulder dam have been installed on two of the four river outlets and have passed successful operation tests, and the installation of a similar needle valve on one of the Madera canal outlets is in progress. Fixed-wheel gate guides have been placed on the two river outlets now under control and gate guide installation for the remaining river outlets is nearing completion.

• • •

Toronto woman engineer wins British scholarship

Martha Stewart Leitch, University of Toronto, 1943, graduate in engineering, is the first Canadian to win the British educational scholarship awarded each year to four outstanding women in the British Empire. It means passage to Britain and return and $1,350 for expenses while there.

Mrs. Leitch, the wife of Lieut. John M. Leitch, R.C.E., has been employed with Wartime Housing, Ltd. and the Toronto planning board.

Soo Locks set record despite short season

Completion of a shipping season termed "miraculous" by Great Lakes shippers during which more vital war supplies passed through the government controlled locks at Sault Ste. Marie, Mich. than in any season in history, has been announced by Lieut. Col. Allison Miller, district engineer, U. S. Army Engineers, Detroit. It is reported that 28 percent more wheat, 76 percent more in other grains and 21 percent more soft coal passed through the locks during 1943 than ever before. The shipping season ended Dec. 15.

The tonnage of iron ore passing through the locks was 9 percent less than in 1942, said Col. Miller, but this was due largely to an ODT decision to increase grain shipments at the expense of ore. Actually, some 85,000,000 tons of ore were delivered through the locks to the steel production centers, sufficient for their wintertime steel manufacture.

Chief contributing factor to this wartime record of Great Lakes shipping was the new MacArthur Lock, constructed in record time and placed in operation last July (*ENR* Nov. 18, 1943, p. 738).

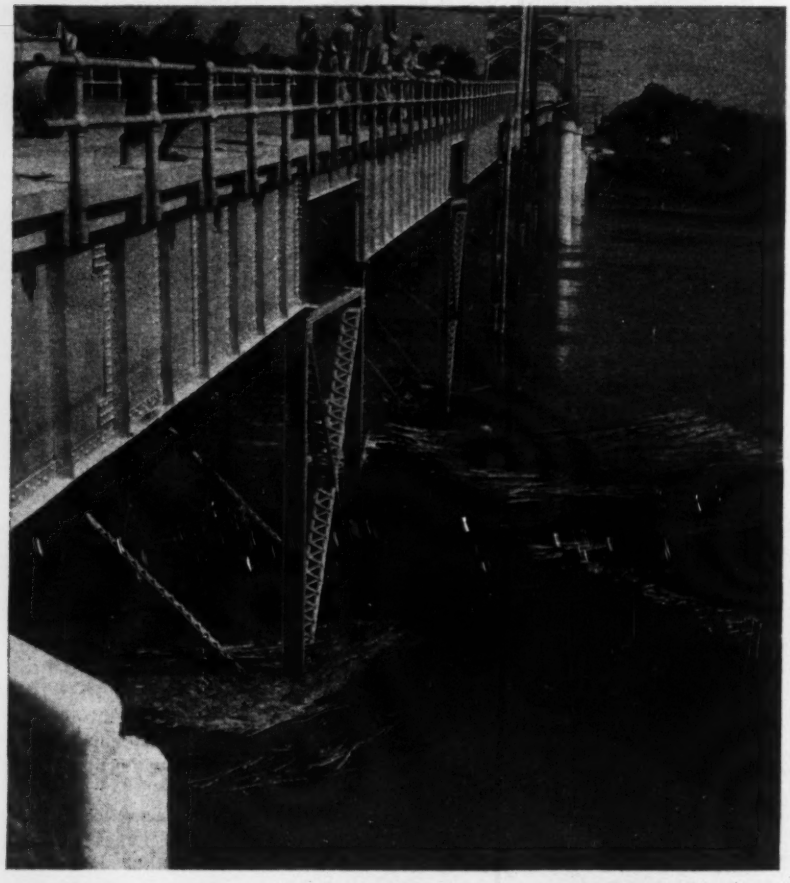
Flood-damaged Missouri River Bridge Reconstructed

V. W. Enslow
Bridge Engineer, Missouri State Highway Department

Repair of the Missouri River bridge on Route 71 between Independence and Liberty, Mo., which was damaged last summer by high water, has been completed. The salvage and repair operations required four months.

On June 20, three 60-ft. plate girder spans and two 20-ft. I-beam tower spans with supporting steel columns and concrete pedestals at the south end of the crossing collapsed during a flood and fell into some 25 ft. of water. Plans were started immediately for reconstructing the approach spans, a contract for the work being awarded to the Massman Construction Co., Kansas City, which had immediately available floating equipment necessary to undertake the required work.

The reconstruction plans called for one 55-ft. and three 60-ft. I-beam spans, or a slightly longer structure than the original. As much of the old superstructure as possible was to be salvaged and used. The new substructure was to consist of steel pile bents with the piling driven to rock, or some 57 ft. below low water elevation, and 96 ft. below cut-off. This type of substructure was chosen for economy and due to the speed with which it could be constructed.



The old structure a few hours before collapse of spans upon which the men are standing. Barge in foreground loaded with willows for mattress work was being used in reveting the end bent, which was not damaged.

Equipment available for the salvage and reconstruction work included: a 70-ton stiff leg derrick, a 25-ton floating derrick, a floating pile driving rig, a towboat, and a small dredge boat. All this equipment had arrived on the job July 12, when salvage operations were started.

In the period between the collapse of the structure and the start of salvage operations several feet of sediment accumulated over the spans. This silt, although of a semi-fluid consistency, had to be removed before the spans could be salvaged. For several weeks the small sand dredge removed sediment continuously from above the spans. Virtually all the sediment had to be pumped from within an enclosure formed by the river falling below bank level.

The 60-ft. plate-girder end span which was partly out of water, was removed after a considerable part of the concrete floor had been broken away. This span was found to be in a usable condition with some repair work, and it was shipped at once to the fabricating shop of the Havens Structural Steel Co., Kansas City.

After punching holes in the concrete floor, a diver made the required hitches to the cross-beams of the spans completely under water. In removing the spans the 70-ton stiff-leg derrick, the 25-ton floating derrick and the pile driver rig were used. The load of the steel spans and the concrete floor was estimated at 80 tons, but proved much greater than expected, due to the overlying silt and to the superstructure steel still remaining fastened securely to the substructure.

The two remaining 60-ft. girders proved to be in poor condition for reuse. It would have been necessary to disassemble the members, obtain a considerable quantity of new steel, including some plate material, and reassemble the girders. Therefore, from the standpoint of both cost and time, it was considered advisable to obtain new steel for these spans. Accordingly, orders

ere placed with the Reynolds Manu-cturing Co., Springfield, Mo., for the brication of two 60-ft. I-beam spans. e material for this work was obtained m steel stock the company had on nd for an uncompleted project closed wn by the War Production Board.

The beams for the 55-ft. span were tained from material that remained used after the construction of a bridge an access road near Kansas City. ey were originally obtained by the blic Roads Administration through redistribution branch of the War duction Board.

The salvage operations were com-ted on Aug. 21, and the new con-ction followed at once. Construction the steel pile bents and the steel-m spans, which have a concrete r, proceeded without interruption. ffic was routed over the bridge on . 22, nine weeks after the comple-of the salvage operations. Remain-operations included completion of handrail and some revetment work nd the substructure. This work was hed Nov. 5.

. L. Matthews was in charge of the k for the Massman Construction Co. the Missouri State Highway De-ment, C. W. Brown is chief engi-; H. M. Brush, division engineer; liam J. Groves, division construction neer; and the writer, bridge engi-. Fred Hunt as project engineer in direct charge.

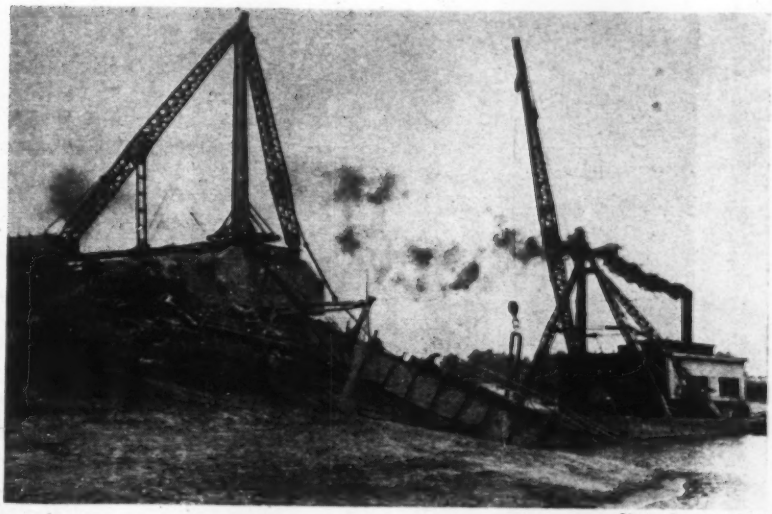


Photo Courtesy PRA

-leg derrick and floating rig (at recovering the girders of the span.

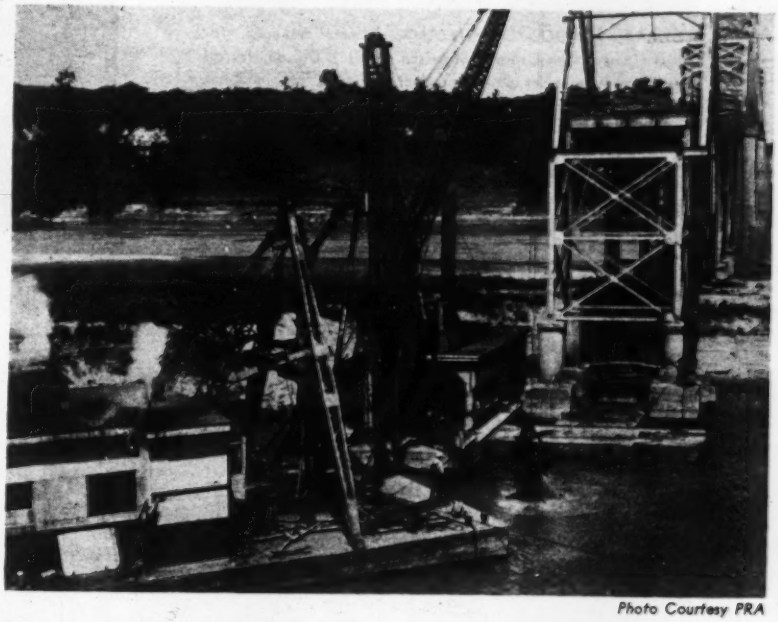
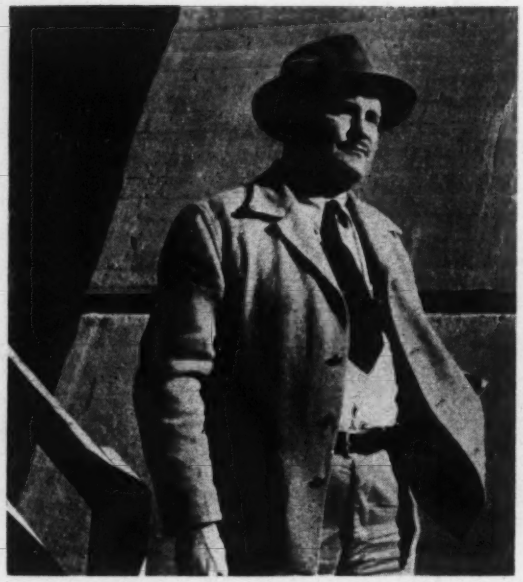


Photo Courtesy PRA

ling equipment (at right) removing ts preparatory to driving steel-bents for new structure.

ged 60-ft. plate girder and three new I-beam spans in place. Reconstruction of fill around the end bent had not completed when this picture was taken.

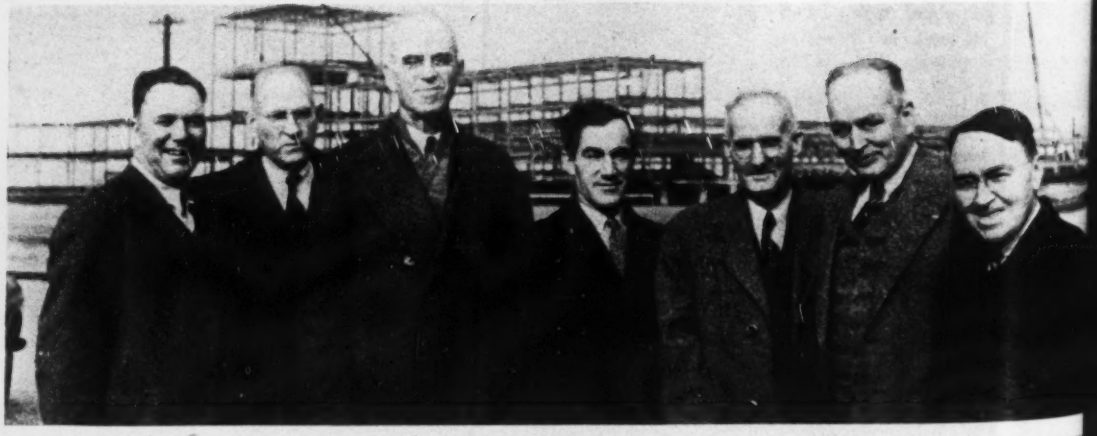
MEN AT WORK



BERNARD "WOODY" WILLIAMS, project manager, for Utah Construction Co. and Morrison Knudsen Co. on Norfolk Dam, hopes to start power production on his job in April. Norfolk Dam construction will be described in ENR Feb. 10.

U. S. Engineers inspect the R. G. LeTourneau plant at Peoria, Ill., Jan. 10. Left to right, ELMER E. ISGREN, general plant superintendent; COL. MALCOLM ELLIOTT (extreme background), district engineer, St. Louis, Mo.; MAJ. GEN. EUGENE REYBOLD, Chief of U. S. Engineer Corps, and DENN H. [illegible] CESS, LeTourneau vice-president and general manager.

Although busily engaged in completing a million-dollar contract for construction of the lift pumping station and chemical building superstructures of Chicago's new filtration plant, members of the S. N. Nielsen Co. of Chicago, pause for a photo. They are (left to right): S. N. NIELSEN, president; [illegible] SINARD, field secretary; CARL JORGENSEN, superintendent of construction; E. R. NIELSEN, vice president and treasurer; and A. [illegible] SPENCER, office manager.



Smiling contentedly following a sumptuous turkey dinner, prominent Chicago engineers supervising the construction of that city's $20,000,000 South Side filtration plant include (left to right): H. G. MORKASSEL, junior engineer; W. W. DeBERARD, city engineer; JOHN S. [illegible] engineer of waterworks construction; CARL RIGGENBACH, resident engineer; JOHN R. BAYLIS, engineer of water purification; E. A. [illegible] DALL and FRED G. GORDON, senior filtration engineers.

Special tax provisions for contractors making profit on sale of equipment

Federal income tax law permits putting such gains into a replacement fund if sale is made under requisition. Profit on normal sales may be considered as capital gain.

Contractors realizing a profit from e of construction equipment—either rmal sales or those under forced req- ition by military or government agen- s—under provisions of the Requisi- n Act of Oct. 16, 1941—are entitled special consideration under certain ditions by the provisions of the fed- l income tax law, according to recent ements issued by the Construction chinery Division of WPB. The tax ef provisions depend upon the type sales.

When equipment is sold to a govern- nt agency under threat or imminence requisition, the seller may put the ceeds of such sale in a replacement d and avoid federal incomes taxes on gain realized from the sale by com- ng with the three following condi- s:

(1) If unable to immediately replace the converted property with similar property, the seller must apply to the Commission of Internal Revenue, Washington, D. C., on Form 114 for permission to establish a replacement fund.

(2) The seller must prove the sale involuntary and compulsory.

(3) The seller must furnish on income tax bond, in amount to be determined by the Commissioner, but not in excess of double the amount of the tax otherwise due, guaranteeing payment of any taxes due in case any or all of the replacement fund is not expended in replacing the converted property. When the entire fund is used, or the due taxes paid, the seller is released from liability under the bond.

his provision comes under Section (f) of the Internal Revenue Code, mended, and Section 29.112 (f)-1 .2 of Regulations 111.

Normal sales

ains on normal sales of construction pment by an owner and user of such pment subject to federal income tax be treated as capital gain if the r so desires. Instead of paying the al and surtax rate on any part of gain, he may pay an alternative tax e excess of all such gains over capi- osses.

e alternative rate is 25 percent corporations and 50 percent for viduals, but in the latter case only of the gain is taken into account. refore, in any case, the most the tax- payer would pay is federal income taxes on 25 percent of the gain. This provision is subject to the following conditions:

(1) The equipment is subject to the allowance for depreciation.

(2) The equipment has been held by the owner for more than six months.

(3) The equipment is not the kind the seller would include in his inventory on hand at the close of the taxable year.

(4) The equipment is not held primarily for sale in the ordinary course of business.

These provisions are covered by Section 117 (j) and related sections of the Internal Revenue Code, as amended in 1942, and the regulations of the Internal Revenue Bureau.

WPB suggests that sellers check individual cases with a tax consultant or any Collector of United States Internal Revenue.

• • •

Hearings on road plans begin in Washington

The Senate special committee on postwar economic policy and planning proposes to begin its hearings on postwar highway plans on Feb. 4. The first witness to be called is G. Donald Kennedy, former highway commissioner of Michigan and now vice president of the Automotive Safety Foundation. Mr. Kennedy is a member of the National Interregional Highway Committee, which recently reported to Congress (*ENR* Jan. 27, p. 144) and is chairman of the committee on postwar construction of the American Society of Civil Engineers. He is author of a highway report prepared by the Automotive Safety Foundation.

The report, which makes an analysis of needs and proposals for postwar action, includes suggestions for state as well as federal legislation. Such legislation, it says, should include provision for limited access highways, revision of land-acquisition procedure, public control of roadside development, marginal land acquisition, the allocation of more state motor-vehicle tax revenues to urban areas, and prevention of diversion of highway funds.

Besides state legislation, other listed highway policy problems requiring attention include acquisition of rights-of-way, postwar planning, and provision of adequate financial support. The report deplores the present custom of appropriating funds for both land purchase and highway construction in the same bill, thereby postponing the purchase of rights-of-way until the time of construction. It also criticises the limiting of time for spending such funds because, it says, this results in higher real estate prices.

It is pointed out that of the traffic over the three million miles of highways, 55 percent of that on city streets is by bus, 60 percent of that on secondary roads is by school buses, and 47 percent on primary highways is due to trucks.

It also states that 54,000 communities, four out of every ten, depend entirely upon the highways for both passenger and freight service, while 2,320 cities, with a population of nearly 13,000,000, have no means of local transportation except the automobile.

Hearings will begin Feb. 29, before the House Roads Committee, on the subject of federal aid to highway construction, including proposed postwar highway work.

• • •

Increase in road funds proposed for New York

Governor Thomas E. Dewey of New York, in his annual budget message to the state legislature recommends the appropriation of $12,500,000 for highway maintenance during the fiscal year beginning April 1, 1944. That is an increase of $1,600,000 over the appropriation made last year, which is proposed on the assumption that men and materials may be available to "expand the program of highway preservation."

The governor also recommends that $2,000,000 be made available to the Department of Public Works from the postwar reconstruction fund for the purchase of right-of-way for the "thruways" proposed to be built after the war (*ENR* Jan. 27, p. 128). This fund, set aside by the legislature from the state surplus, is expected to amount to a total of $148,000,000.

There will also be available $12,000,000 for regular state highway work from reapportionment of prior years' construction funds. Part of this money also is to be used to acquire right-of-way for postwar projects on the state highway system.

A further draft of $2,000,000 on the reconstruction fund is proposed by the governor for the Postwar Public Works Planning Commission and $1,500,000 from the general fund for the municipal planning program.

Connecticut Civil Engineers mark 60th anniversary of society

Two charter members, William B. Palmer, Frederick W. La Forge, honored by testimonial for long years of service.

On Jan. 15, 1944, the Connecticut Society of Civil Engineers was 60 years old, and on March 21–22 next, it will hold its 60th annual meeting at Hartford. In the meantime, it has marked its long history, exceeded only by that of the Boston Society of Civil Engineers and the American Society of Civil Engineers, by presenting testimonials of appreciation and good wishes to its two living charter members, William B. Palmer of Bridgeport, and Frederick W. La Forge of New London.

Both Mr. Palmer and Mr. La Forge have continuously practiced their profession in Connecticut since their graduation from Sheffield Scientific School, Yale, in 1876 and 1882 respectively.

W. B. Palmer

F. W. LaForge

Mr. Palmer's first job was as an assistant engineer with B. H. Hull, civil and hydraulic engineer of Bridgeport, and the founder and first president of the Connecticut Society of Civil Engineers. For three years, from 1881 to 1884, Mr. Palmer was on railroad work in New Jersey and Ohio, returning to form a partnership with Mr. Hull which lasted until 1900. Then, until 1912 he was connected with the Housatonic River water power development, following which he formed the consulting firm of Palmer & Goodell. This lasted until 1920, when he opened a private office as civil engineer and land surveyor. Finally, in 1924, the W. B. Palmer Engineering Co. was formed, which has continued general engineering and land surveying practice to date. Mr. Palmer was president of the Connecticut Society in 1890, and was made an honorary member in 1919.

Mr. La Forge's first job was with Welton & Bonnett, civil engineers of Waterbury, from 1883 to 1886, after which, until 1900, he engaged in private practice as a civil engineer and land surveyor. For the next 34 years, until his retirement, he was a civil engineer for the U. S. government, for 16 years at Fort Terry, Plum Island, N. Y., for 14 years at Fort H. G. Wright, Fishers Island, New London, and for the last four years at the Corps Area Army Base at Boston. Mr. La Forge is at present serving on the City Planning Commission of the City of New London. He was first vice president of the Connecticut Society in 1893.

The testimonial given to these charter members and signed by Leslie G. Sumner, present president, and the entire board of direction, follows:

Hartford, Conn.
January 14, 1944.

Honored Sirs:

On the occasion of the 60th Anniversary of the founding of this Society, January 15, 1944; we, the Board of Direction, on behalf of the entire Membership extend to you in the friendliest spirit a warm and heartfelt greeting of good wishes.

We feel, Sirs, that our Membership owes a great debt of gratitude to our Founder Members, who, through their energy and foresight brought into being the "Connecticut Civil Engineers' and Surveyors' Association."

It is with genuine pride that we join with you in the realization that our Society has,—in fulfillment of its purpose to promote professional improvement through fellowship,—grown in strength over the past sixty years from the original eighteen members to an enrollment at this date of 1014, and in its growth has become a recognized and respected factor in the life of our State.

To mark the esteem of our entire Membership, and as a token of grateful appreciation to our Charter Members for their personal exertions in the Society's formative years, and for their lifelong support of its activities, we are honored to present you with a token in tune with the times, in the form of an United States War Bond.

It is our sincere hope that the evening of life may for you be gloriously illumined by the rays of realization that a brotherhood you helped so firmly to establish will live on, and grow in favor and effectiveness in the service of engineers for many generations to come.

L. G. Sumner	W. G. Brenneke
C. N. Wiley	F. Walden Wright
Hy. Wolcott Buck	Leon E. Tuttle
Robert S. Rose	J. H. F. Clark
F. B. Chamberlin	F. J. Trowbridge

A. A. Cross

The "Hertzberg Process" honors General Hertzberg

The recent death in India of Maj. Gen. C. S. O. Hertzberg, late chief engineer of the Canadian Army Overseas, was briefly mentioned in last week's issue. General Hertzberg had retired from his post with the Canadian Army last June, but later was requested to proceed to India, on loan from the Canadian government, to serve as inspector of research and development for the rapid construction of airfields. This was with a view to the extension of a process which he and his staff had developed. Maj. Gen. H. E. Roome, engineer-in-chief in India, has paid a glowing tribute to General Hertzberg, saying that "the importance of his work can scarcely be computed. As a tribute to his work, the development will be known in future as the 'Hertzberg Process'."

In civilian life, General Hertzberg was a prominent consulting structural engineer in Toronto. He was born in Toronto of Norwegian parents, and was a graduate of the University of Toronto.

. . .

Road grader allocations suspended by WPB

Motor grader requirements for 1944 have jumped 30 percent over 1943 production because of a large increase in public agency and civilian applications. Until the production program can be reviewed and adjusted and the number of units to be manufactured is determined, the Construction Machinery Division of WPB has announced all non-military applications for motor graders are being denied and returned until further notice.

First quarter applications already processed are not affected.

. . .

Moscow's newest subway began operation Jan. 20

Moscow's newest subway system carried its first morning crowds on Jan. 20, shortening by two-thirds the time required to make the former three-hour trip from the Kursk railway station to the Izmailovo section of the capital.

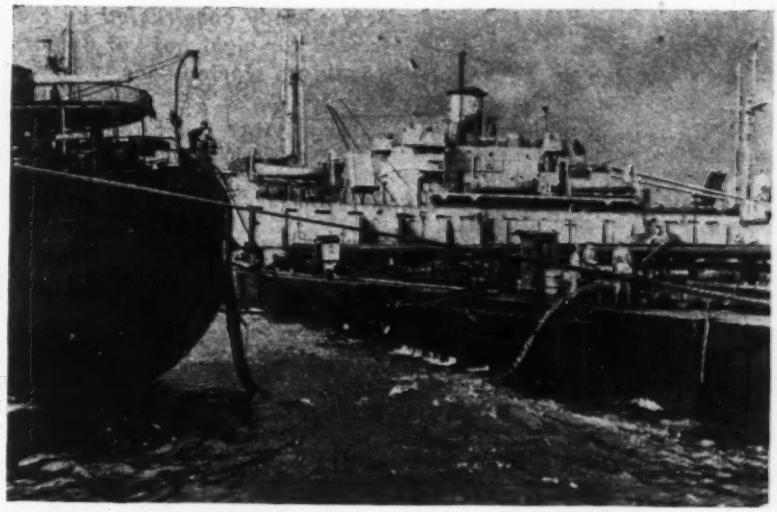
The line has three stations, including one named for Premier Joseph Stalin. Another is named Baumskaia, representing the united camp of the Army and the people, and the third is Izmailovskaia, dedicated to the Russian guerrilla movement.

Pipelines fuel the Italian front

Proved in North Africa and further developed since, the Army Engineers' portable pipelines are now fueling the Fifth Army front in Italy. Oil and gasoline pumped directly from the tankers at the ports go overland to terminals where thousands of so-called "jerri-cans" are filled for distribution by truck to the various units in the field.

The portable pipeline is a joint development of the Corps of Engineers and the Shell Oil Co. The pipe, of spiral welded steel, is supplied in 20-ft. lengths, weighing only 90 lb., and as much as 1,000 ft. can be handled by a single truck and its crew. Flexible couplings of the Victaulic type permit the pipe to be laid rapidly and to follow rough terrain. Booster pump stations mounted on skids are gasoline powered, and can be moved by two trucks.

In North Africa it is said that over half of the tonnage of supplies moved to the front consisted of petroleum products; and pipelines, which aggregated over 1,000 miles in length, handled most of it. Specialist pipeline troops organized into Engineer Petroleum Distribution Units are set up to install and supervise operation of 100-mile sections of line. They have laid as much as 10 miles a day, including the installation of a pump station.



...tanker docked at an Italian port (at top, right) pumps gasoline directly into a pipeline header on the pier. It is said that special sea-going siphons are under development which will permit tankers to unload from far offshore.

Press Association Photos

River crossing of a pipeline is suspended from cables attached to existing transmission line towers. Pipe joints in such crossings are welded to give rigidity to the line.

Pipeline terminal (left) is scene of a vast can filling operation. Fuel cans are loaded onto trucks in background. Cans hold 5 gal. so they can be carried by one man. Where airfields are served, planes are often fueled direct from the pipeline.

President's special recommendations on river and harbor projects

Approval asked for twelve projects already constructed by the military and naval establishments, and for eight not yet authorized which the President thinks should be started soon.

The House report of the Committee on Rivers and Harbors, concerning the Omnibus Rivers and Harbors Bill, H. R. 3961, recently reported, includes a letter from President Roosevelt listing 12 projects included in the bill which, though not yet authorized by Congress, have been constructed by the military or naval establishments. These, the President says, ". . . should be authorized as regular river and harbor projects as soon as practicable so that the Corps of Engineers may undertake the work of maintaining these improvements as a regular civil function of the War Department." They are projects at:

Portland Harbor, Maine; Weymouth Fore River, Mass.; East River (Corlear's Hoof Reef), N. Y.; Lake Montauk Harbor, N. Y.; New Jersey Intracoastal Waterway, Cold Spring Inlet, N. J.; Delaware River, Philadelphia to the Sea; additional improvements, Little River, Va.; Cleveland Harbor, Ohio; Morro Bay, Calif.; Oakland Harbor, Calif.; Keehi Lagoon, Hawaii.

"There are eight important projects on your list . . . which have not yet been authorized as regular river and harbor projects and which have not been constructed as special projects by the military or naval establishment." The President's letter continues, "these should be authorized for construction by the Congress at an early date so that as soon as men, materials, and equipment become available these works may be completed to facilitate the war effort."

These projects would be located at: Baltimore Harbor, Curtis Creek, Md.; St. Joseph's Bay, Fla.; Mobile Harbor, Chickasaw Creek, Ala.; Sabine-Neches Waterway, Tex., at Port Arthur; Mississippi River between the Missouri River and the Ohio River at Chain of Rocks; St. Clair River, Mich.; San Pablo Bay and Mare Island Strait, Calif.; Ponce Harbor, P. R.

The committee's report shows that the 240 projects for which authorization is sought would have an estimated first cost to the United States of $420,675,396, that local contributions to first cost would amount to over $8,000,000, and that additional annual maintenance and operation costs would come to $3,550,500.

The report says that "the backlog of authorized river and harbor projects "is not large enough to use to advantage the efforts of the engineers now engaged on war work in the respective field offices, when their services again become available for postwar work."

Some projects opposed

A minority report, signed by Representatives Carter, Dondero, Buffett, Mruk, and Rodgers, objects to inclusion in the bill of the Alabama-Coosa River, Ala., project, to cost $60,000,000, the Tombigbee-Tennessee Waterway, $66,000,000, and the Savannah River project below Augusta, Ga., $28,000,000, because they are "of a controversial nature involving large sums of money." The report also objects to the power which the bill delegates to the Corps' Chief of Engineers. "It is apparent," the minority report says, "that Congress will be in almost continuous session for an indefinite period and, therefore, there is no justification for such a sweeping and all-inclusive delegation of authority to any office or agency of the government."

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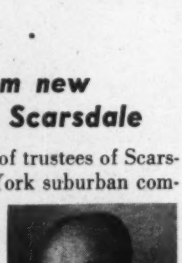
R. J. Newsom new manager of Scarsdale

The village board of trustees of Scarsdale, N. Y., a New York suburban community with a population of 10,000, has announced the appointment of Reeves J. Newsom as village manager, effective March 1.



Mr. Newsom, who succeeds the late Arthur Boniface in this position, brings to his new post a wide background of engineering and managerial experience. A native of Indiana, he obtained his civil engineering degree from Purdue University in 1913 and then did postgraduate work at the Massachusetts Institute of Technology. During the next ten years he served the city of Lynn, Mass., as engineer and superintendent of water supply, commissioner of water supply, and a member of a municipal commission that directed all construction projects for Lynn.

In 1926 Mr. Newsom became executive vice-president of the Community Water Service Co. in New York, and in 1932 he was appointed president of the company, which operates water utilities in several states. In 1937 he resigned to become a consulting engineer, specializing in water supply, sewerage and other hydraulic developments. Forming the partnership of Newsom & Aldrich in 1941, his firm designed and supervised construction of a $7,000,000 water supply project for the Norfolk, Newport News and Hampton Roads area in Virginia.

Mr. Newsom has been active in many professional associations and before the war served as president of the American Water Works Association.

• • •

Power tunnels proposed for Seattle's Ross Dam

The Seattle, Wash., city council has under consideration an ordinance for an expenditure of $3,189,000 for additional work at Ross Dam on the Skagit hydro-electric project. Application is being made to the Federal Works Agency for a grant of $1,000,000 and the remaining $2,189,000 will be taken from city light funds.

The dam is being raised to 450 ft. above bedrock. Work authorized under the new appropriation would be the construction of two 25-ft. diameter tunnels through the granite walls at the ends of the dam. They would carry water from the reservoir to the powerhouse turbine.

The powerhouse will not be built until the dam is raised to its ultimate height of 555 feet, but it is proposed to drill the upper ends of the tunnels now while the foundation site for the addition to the dam is being prepared so that no time will be lost.

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Railway engineers to resume meetings

After a lapse of one year, the American Railway Engineering Association will resume holding its annual meeting according to an announcement by H. R. Clarke, president. The meeting is to be held March 14-16, Palmer House, Chicago. It is expected that the normal practice of devoting most of the meeting time to committee reports will be modified to provide time for talks on current subjects of special interest to railway engineers.

Construction Communiques

Engineering news from the battlefronts

uth Pacific—Even though Seabees erating with assault forces may cap- re Jap airfields virtually undamaged, ey still have to perform a major en- neering operation to make them us- le for American bombers.

Because Jap flying equipment is built light, their island flying fields will t support our fortresses. Seabees ve to do a reinforcing job. In some es, it is reported, Jap bomber strips ve only a 10-inch fundation made of al with a little light concrete on top.

rma—Real progress is being made the new Ledo Road, the 116-mile pply link with India. On Dec. 27 t. Albert Ravenholt sent a U. P. dis- ch to the New York Herald-Tribune which he announced the "break- ough" as follows:

"It was 11:21 o'clock on a misty rning that the break-through of the do Road from India to the Burmese ad system took place. Now the ies can mount an offensive against Japanese in northern Burma; now y can expect eventually to supply ina with a tonnage far exceeding the acity of the old Burma Road.

"The engineers still are far from con- ting with the old Burma road to ina, and the track behind them needs ening and surfacing to make it shed monsoon rains, but a route through Patkoi mountains has been opened.

"The engineers had come 116 miles, toughest 116 miles that United es Army Engineers ever traveled. arheaded by Chinese troops, they tled malaria and the wet, cold winds n mountain peaks every foot of the ."

rseas—Much of the heavy construc- machinery used on the Denison n and elsewhere in the Denison dis- t in Texas has been sent to foreign for use in the Army's construction gram.

t the peak of construction in the ison district, approximately $10,- 000 worth of equipment was in It is said that more than 55 per of the equipment is now in use ur engineers abroad.

gainville—The first bridge to be ed on Bougainville stands today a jungle stream. It honors the ory of a Seabee hero, Edward Car- ers, CCM of Hagerstown, Md., who killed on Nov. 22, 1943, when a exploded near his platoon, which cutting a trail to the front lines.

Simple signs at either end of the bridge read:

"Carruthers Bridge, dedicated to Eddie Carruthers, who gave his life blazing this trail."

The Appian Way—American Army engineers now have an opportunity to study the famous Appian Way at close quarters. They probably will have to rebuild part of it as the Italian campaign progresses. This great paved highway was begun about 312 B.C. by Appius Claudius Caecus. It went from Ancient Rome through Capua to Brundusium at the toe of the Italian boot. Its pavement, 14 to 18 ft. wide, of large hexagonal blocks, is still in use in places.

In this connection, it is interesting to note that, according to Oregon State Engineer R. H. Baldock, the Appian Way served as a model for road builders of that state. Because ordinary modern roadbuilding technique did not produce satisfactory results, a 25-mile section between LaGrande and Pendleton through the Blue Mountains was patterned after the ancient Roman highway.

"The old Romans went right down to hardpan and built up from there," Baldock said. "The usual Oregon highway is prepared to a depth of 30 inches, while the Romans used a minimum depth of 37 inches and a maximum of about 55.

"We were troubled with ground conditions in the Blue Mountains and on the Mecham-Pendleton section of the Old Oregon trail. We found that 'frost boils' ruined ordinary highway surface so we used the same general type of construction as the old Romans, and have had good results from following a 2,200-year-old practice."

Press Ass'n photo

Our Army engineers build a vital road in Burma

One of the toughest engineering assignments in this war is the construction of the Ledo supply road across northern Burma from India to China, and, as usual, American Army engineers are "doing the impossible" there.

The picture shows a tractor pulling a lead truck out of a hole in this important link on the way to victory in the Far East.

JOBS OF THE WEEK

RUBBER TIRE PLANT, Miami, Okla.

Goodrich Tire & Rubber Co., Akron, O., awarded a contract for the design and construction of a rubber plant to Austin Co., Cleveland, Ohio. The plant includes 300x350 ft. factory, with 300x650 ft. wing; 75x125 ft. boiler room, storage building and 2 story 50x120 ft. additional building. The estimated cost is $5,000,000.

FACTORY, Lincoln, Neb.

A. L. Jackson Co., Chicago, Ill., has been awarded a contract for a factory by the Western Electric Co., Inc., Chicago, Ill. The estimated cost is $4,500,000.

PLANT, Chicopee, Mass.

American Bosch Corp., Springfield, Mass., has awarded a contract for brick, steel and concrete plant addition to Ernest F. Carlson, Inc., Springfield, to cost $1,300,000. The Defense Plant Corp. will finance.

FACTORY, Eau Claire, Wis.

Western Electric Co., Inc., awarded a contract for the construction of a factory to A. L. Jackson Co., Chicago. The estimated cost is $1,000,000.

TUNNEL, Leadville, Colo.

Denver, Rio Grande & Western R.R. Co., Denver, Colo., has awarded a contract for 2,000 ft. concrete lined tunnel under Tennessee Pass to Winston Brothers Co., Minneapolis, Minn., at $674,730. The railroad will furnish materials.

HOSPITAL, Chillicothe, Ohio

Veterans' Administration Facility, Washington, D. C., received the lowest bid for constructing a hospital addition from Penker Associates, Inc., Cincinnati, Ohio, at $1,138,000.

SALT PLANT, St. Clair, Mich.

Morton Salt Co., St. Clair, is constructing buildings to replace plant destroyed by fire. The estimated cost is $2,000,000. Bryant & Detwiler Co., Detroit, are the contractors for the project.

HOUSING, Tampa, Fla.

Paul Smith Construction Co., Tampa, Fla., was the lowest bidder for constructing 52 row houses when the Housing Authority of the City of Tampa opened bids, at $1,569,846. NHA will finance. M. Leo Elliot, Tampa, prepared plans, which include a community house and child welfare center.

BARRACKS, Treasure Island, Calif.

George A. Fuller & Co., San Francisco, Calif., were the lowest bidders for construction of additional barracks buildings when Bureau of Yards & Docks, Navy Department, Washington, D. C., opened bids, at $733,000.

HOUSING, Sparrows Point, Md.

Tovell Construction Co., Baltimore, Md., was the lowest bidder when the Public Housing Authority, Baltimore, Md., opened bids for 400 temporary dwelling units, at $1,074,000.

DWELLINGS, Los Angeles, Calif.

Beliveau Construction Co., Alhambra, will construct 362 frame and stucco dwellings, Imperial Highway and Central Ave., by its own forces. The estimated cost is $1,500,000. Paul R. Williams, Los Angeles, Calif., is the architect.

RESIDENCES, Penns Grove, N. J.

Landsman & Soffin, Inc., New York, N. Y., has been awarded a contract for the construction of 100 residences by Pennsgrove Homes, Inc., New York, N. Y. The estimated cost is $550,000. Lawrence Rothman, New York, N. Y., is the architect.

PLANT, Carlsbad, N. M.

United States Potash Co., Carlsbad, will construct plant expansion to cost approximately $1,000,000. C. C. Moore & Co., San Francisco, Calif., is the contractor.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 14.

Producers' Council plan

(*Continued from page 1*)

2. Appropriate funds adequate for immediate planning of all essential federal public works projects.
3. Confine federal public works appropriations to essential projects which serve a federal purpose, using less urgent projects to stabilize the construction industry and to replace non-productive work-relief projects in times of depression, carrying out the policy declared by Congress in the Federal Employment Stabilization Act.
4. Return, by suitable declaration of policy, the responsibility for financing local public works to the levels of government which will own them, so that local officials will stop waiting for federal assistance and proceed to plan needed local improvements in advance.
5. Help to provide adequate financing for private residential construction, through revamping of the National Housing Act and by continuing the Federal Housing Administration until adequate private mortgage insuring facilities are available.
6. Discontinue the use of federal funds for the erection of new public housing, and rely for housing of needy families in existing structures through local welfare expenditures.
7. Provide for the disposal of government-owned surpluses of building products left over from the war program in an orderly way through established trade channels, and in a way to expedite needed civilian construction.
8. Appropriate sufficient funds to aid in the postwar training of returning service men and other construction workers.
9. Through a declaration of Congressional policy encourage the removal of restrictions on civilian construction as fast as war requirements for critical materials and manpower permit.
10. Through a declaration of Congressional policy, encourage the resumption of farm construction at the earliest possible date.

In support of this program Mr. Whi lock pointed out that a record volum of construction, totaling $16 billion year and furnishing employment fo more than 6,000,000 workers, is believe possible during the 5-year period star ing one year after the end of the wa

Although private construction shoul account for two-thirds of the total, large volume of useful public work also will be desirable and necessary.

OBITUARY

Carl H. Nau, 54, since 1925, a partner in the firm of Wilbur Watson & Associates, died in Cleveland, Ohio, Jan. 15. As principal architect for the Watson firm, Mr. Nau was in charge of design and construction of Crile General Hospital and the Ravenna, Ohio, Ordnance Plant, one of the largest shell-loading plants in this country. He had held a similar position on construction of numerous industrial buildings. He received his college training at Columbia University.

John Wardwell Howard, 64, associate professor of topographical engineering, Massachusetts Institute of Technology since 1922, and for 40 years a member of the civil engineering faculty, died on Jan. 25. He was a graduate of the institute in 1903, and resided at Dedham, Mass. During his career he was connected with a commission on New York water supply, with the town boundary survey of Massachusetts, and was engineering representative in 1912 on a commission sent to establish the boundary between Panama and Costa Rica.

William Joseph Evans, 76, one time assistant street commissioner of Toronto, Ont., died Jan. 4.

William Mahan, 77, veteran engineering executive of the Wheeling & Lake Erie Railroad, died Jan. 11, at Canton, Ohio. He had been associated with the railroad's engineering division 60 years. He was evaluation engineer with headquarters in Cleveland.

Carl J. Josenhans, 60, retired engineer of the Wilmington, N. C., District Engineers office, died Jan. 21. He had retired last July after 30 years' service. He was in charge of the construction of the $2,500,000 Harbor of Refuge at Cape Lookout, N. C.

Fred Newell, 65, chief engineer of the Dominion Bridge Co., a prominent member of the Engineering Institute of Canada, and well known throughout the Dominion as an authority on the design of hydraulic equipment, died Jan. 19 in Montreal.

Thomas W. Barrally, 79, former western division, N. Y. barge canal engineer, died Jan. 17, at Tonawanda, N. Y., where he was city engineer for 20 years.

E. L. Sanderson, 71, deputy commissioner of the Detroit, Mich., building and safety engineering department, died Jan. 18. In 1917, he was appointed to the Detroit building code revision committee, and one year later took over the position which he held at the time of his death.

Kenneth Ingalls Sawyer, 59, engineer and superintendent for the Marquette County, Mich., road commission since 1916, died Jan. 8 at Ishpaming.

Andrew O'Rourke, Sr., 83, partner in the Hughes-O'Rourke Construction Co. of Dallas Tex., until he retired in 1929, died Dec. 23. Mr. O'Rourke built many public structures in Texas.

Charles M. Talbert, 73, died in St. Louis, Mo., Jan. 25. Mr. Talbert obtained his civil engineering degree from the University of Missouri in 1893. He spent a number of years with the U. S. Geodetic Survey, exploring the Mississippi River from its source to its mouth. From 1909 to 1917 he was director of streets and sewers for St. Louis.

Harvey J. Fetter, 75, died Jan. 7 at Seattle, Wash. Mr. Fetter, an engineer and contractor for many years, had done extensive railway and building construction work in Spain, Bolivia, Canada and the United States.

CONTRACTS AND CAPITAL

CIVIL ENGINEERING construction volume for continental U. S. totals $35,523,000 for the week. This volume, not including construction by military engineers abroad, American contracts outside the country, and shipbuilding, is 7 percent higher than in the preceding week, but is 57 percent lower than in the corresponding 1943 week.

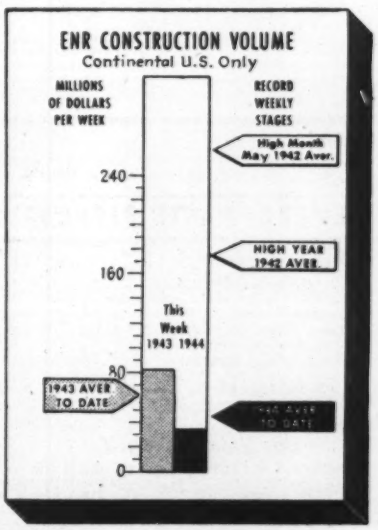
Private construction is 159 percent higher than a week ago, and 85 percent above a year ago as a result of increased activity in industrial buildings. Public work, however, is 37 and 77 percent lower, respectively, than last week and last year.

The current week's construction brings 1944 volume to $214,541,000 for the five weeks, a decrease of 30 percent from the $308,622,000 reported for the period in 1943. Private construction, $43,736,000, is up 69 percent compared with last year, but public construction, $170,805,000, is 40 percent lower due to the 30 percent decline in state and municipal work and the 40 percent decrease in federal volume.

In the classified construction groups, gains over last week are in waterworks, industrial buildings, and streets and roads. Increases over the 1943 week are in bridges, industrial and commercial buildings, earthwork, and highways.

New capital for construction purposes for the week totals $2,416,000, 166 percent higher than a year ago. The week's new financing is made up of $916,000 in state and municipal bond sales, and $1,500,000 in RFC loans for industrial improvements.

New construction financing for 1944 to date, $149,588,000, compares with $5,406,000 for the opening five weeks of 1943.



CONTRACTS

Continental U. S. Only
(Thousand of Dollars)

	Week Ending Feb. 4 1943	Jan. 27 1944	Feb. 3 1944
Federal	$70,002	$22,376	$14,357
State & Municipal	1,354	3,379	1,786
Total public	$71,356	$25,755	$16,143
Total private	10,440	7,486	19,380
TOTAL	$81,796	$33,241	$35,523
Cumulative 1944 (5 weeks)			$214,541
1943 (5 weeks)			$308,622

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	1943 5 weeks	Cumulative 1944 5 weeks
NON-FEDERAL	$5,406	$58,756
Corp. Securities	....	47,176
State & Mun.	3,906	6,005
RFC Loans	1,500	5,575
FEDERAL	....	$90,832
TOTAL CAPITAL	$5,406	$149,588

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost.	Jan. '44	294.57	141.60
Building Cost	Jan. '44	231.55	125.17
Volume	Dec. '43	103.	45.

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

WATER SUPPLY

PROPOSED WORK

Neb., Omaha—Metropolitan Utilities Dist., W. Byrne, genl. mgr., 18 and Harney Sts., water plant imprvs., incl. exten. treatment plant. $150,000.

O., Columbus—City, auxiliary WW plant development in north end of city, incl. construction auxiliary pump. sta. and filtration plant, installation equip. $400,000.

O., Elyria—City, I. D. Foxon, dir. Pub. Service, City Hall, replacing boilers at City Water Works; installing new baffle plates in aeration tanks and installing portable chlorination plant. Wm. Dutch, City Hall, city engr.

†Tex., Abilene—City, W. W. Hair, mayor City Hall, bids soon WW sys. imprvs., Tex. 41-657. **FWA.** Freese & Nichols, 407 Capps Bldg., Fort Worth, engrs. CD 12/23—ENR 12/30.

Wis., Cambria—Village, W. M. Lockhart, clk., water purification plant and softening plant. W. G. Kirchoffer, 22 N. Carroll St., Madison, engr.

Wis., Port Edwards—Village, water purification plant, tank and tower. W. G. Kirchoffer, 22 N. Carroll St., Madison, engr.

BIDS ASKED

Bids Asked February 9

Sask., Maple Creek—Dept. Munitions & Supply, Ottawa, Ont., addnl. water supply at No. 31 C.A.(B)T.C. for Dpt. National Defense (Air), about $20,000.

Bids Asked February 10

†N. C., Jacksonville — Federal Works Agency, 601 State Planters Bank Bldg., Richmond, 19, Va., installing 13,675 ft. 2- to 8-in. c.i. water pipe and 19,250 ft. vitr. clay or concrete sewer lines, to extend town's water and sewerage facilities to housing development along Bay Shore Blvd. near new hospital, NC 31-122 and NC 31-123. $70,000. Plans deposit $15. W. F. Freeman, High Point, consult. engr. CD 1/11—ENR 1/13.

Bids Asked February 14

†Md., Camp Ritchie—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., filtration plant.

Bids Asked February 15

Calif., San Francisco—City, Pub. Utilities Comn., City Hall, San Andres Outlet 3, Spec. 337. Plans deposit $10. N. A. Eckart, ch. engr.

Bids Asked About February 18

†Okla., Tulsa—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 16, constructing, equipping 2 rein.-con. pump. plants on left bank Arkansas River, near here. $250,000.

Bids Asked On Or About February 21

†Okla., Tulsa—U. S. Eng., 416 Wright Bldg., Zone 2, 2 pump. plants on left bank Arkansas River, near here.

Bids Asked In March Or April

†Wash., Bremerton — North Perry Ave. Water Dist., c/o Edith Nutter, Perry Ave. N., 37,000 ft. 2- to 8-in. c.i. watermain. **FWA** 45629. $75,580. Parker & Hill, Smith Tower, Seattle, Zone 4, engrs.

LOW BIDDERS

†Miss., Petal—Town, Jan. 20, WW sys., **FWA** 22-140, from J. B. McCrary, Inc., 22 Marietta St., Atlanta, Ga., **$48,271.** CD 1/13—ENR 1/13.

N. Y., Greece—Water Dpt., 1100 Latta Rd., Jan. 25, water supply sys. exten., Latona, Homestead, Water Dist., from V. Gagliardi, 98 Grand St., Croton-on-Hudson, c.i. pipe **$23,829,** cement asbestos pipe **$21,899.** Est. $35,000. CD 1/5—ENR 1/13.

CONTRACTS AWARDED

†Fla., Panama City—City, Contr. A, installing 17,000 lin. ft. 6- to 12-in. c.i. pipeline, Fla. 8-159, to Saine Co., Inc., 4511 French Ave., Jacksonville, Zone 7, **$41,009. FWA.** CD 1/6—ENR 1/19.

Ia., Sioux City—Sioux City Gas & Electric Co., Geo. A. Neal, pres., water cooling tower, fdn. and basin, to Coomer Constr. Co., Exchange Bldg.; erection and equip. for tower, to The Marley Co., Inc., 3001 Fairfax Rd., Kansas City, Mo. Est. **$25,000.**

★**†Tex., Dallas**—City, Contr. 2, 36 in. c.i. watermain, etc., Tex. 41-651, to Vilbig Co., 817 Bourbon St., **$519,515. FWA.** CD 1/25—ENR 1/27, under LB.

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily
A-E-M Architect-Engineer-Management type of contract

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Latin America
Bridges	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.
Note: To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

†Wash., Yakima—U. S. Eng., 800 3 Ave., Seattle, Zone 4, water supply sys. to L. Colucclo & Co., 512 21 Ave. S., Seattle, **$34,474.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Ia., Ottumwa—Trunk sewer. $173,694. H. A. Brown, City Hall, engr. and superv. CD 12/1—ENR 12/9.

Kan., Hays—Sewage plant, $55,000. Wilson & Co., Salina, engrs.

†Tex., Pear Ridge—S. S. Lynch, mayor, City Hall, sanitary sewer facilities, Tex. 41-662, $69,800. **FWA.** Howe & Wise, Stewart Bldg., Houston, engrs. CD 1/7—ENR 1/13.

BIDS ASKED

Bids Asked After February 1

†Colo., Lakewood — Lakewood Sanitation Dist., 80,000 lin. ft. 6- to 12-in. vitr. clay sanitary sewer line, $375,000. **FWA.** Prouty Bros. Engr. Co., Mining Exchange Bldg., Denver, engr. CD 11/26—ENR 12/2.

Bids Asked February 9

N. Y., Staten Island—President Richmond Boro, Boro Hall, Zone 1, sanitary sewer in Normalee Rd. from Steuben St. to point about 100 ft. east of Allendale Rd. and sanitary sewer in Steuben St. (west side) from Normalee Rd. to Hyland Blvd.; sanitary sewer Cloverdale Ave. from Oakdale St. to point about 290 ft. southeasterly therefrom, etc.

†Okla., Braggs—Federal Works Agency, 1309 Electric Bldg., Fort Worth, Tex., sewer facilities, Okla. 34-141F. $49,000. **FWA.** Plans deposit $10. Collins Eng. Co., McAlester, engr. CD 10/14—ENR 10/21.

Bids Asked February 14

†Md., Towson—Bd. Comrs. Baltimore Co., Courthouse, Towson, sewage pump. sta. in vicinity of Gray Manor housing community, North Point Sect. of Baltimore Co. Md. 18-198. $54,450. **FWA.** Plans deposit $5. CD 12/30—ENR 1/6.

Bids Asked After February 15

†N. J., North Bergen—North Bergen Twp. Housing Auth., 5828 Meadow View Ave., sump pump pit, N. J. 4-1, for NHA. Extended date. CD 1/21—ENR 1/27.

LOW BIDDERS

Calif., Richmond—City, Jan. 24, interceptor sewer, appurtenances Meeker Ave. from Stolte, Inc., 8451 San Leandro St., Oakland, Zone 3, **$157,261.** CD 1/15.

†Calif., Santa Maria—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, addnl. drainage facilities, No. 437, from Midland Constr. Co., 8677 Otis St., South Gate, **$184,378.**

†N. Y. Geneva—Bd. P. Wks., J. W. Brennan, supt., City Hall, Jan. 12, 12 in. sanitary sewer for East North St., N.Y. 30-250, from Paino Const. Corp., 1835 E. 14 St., Brooklyn, **$48,190. FWA.** CD 1/10—ENR 7/1.

CONTRACTS AWARDED

†Fla., Orlando — Federal Works Agency, Candler Bldg., Atlanta, Ga., sanitary sewerage sys. imprvs. and extens. in negro section, Bvd., Fla. 8-288-N.F., to Langston Constr. Co., 46 N.E. 6 St., Miami, Zone 1, **$66,327.** Smith & Gallespie, Packard Bldg., Jacksonville, Zone 1, archts. Awarded 1/22. CD 12/20—ENR 12/23.

Pa., Pittsburgh—F. M. Roessing, dir. Dpt. P. Wks., City-County Bldg., sewer reconstruction, Federal St., between Sampsonia and North Sts., to Frank Manella Const. Co., 6908 Chaucer St., **$49,867.** Bids 1/21. Rejected bids 1/21, relief sewer, Willow St. CD 1/19.

BRIDGES

PROPOSED WORK

Neb., Lincoln—Lancaster Co., J. B. Morgan, clk., replacing 6 bridges on Salt Creek, $150,000. L. W. Weaver, Lincoln, co. engr.

Que., Dixville—Province of Quebec, Quebec City, rein.-con. bridge. $30,000. O. Desjardins, Dpt. P. Wks., Quebec City, engr.

BIDS ASKED

Bids Asked February 8

Indiana—State Hy. Comn., S. G. Hadden, chn., Indianapolis, repairs and new concrete floor, 1 span, 220 ft. steel truss bridge over Mississinewa River, State Rd. 22 between Jonesboro and Gas City, Grant Co., 2 spans, 90 ft. rein.-con. arch bridge over North Branch of Lewis Creek, State Rd. 9, 4 mi. south of Shelbyville, and 0.22 mi. approach grading and paving, Contr. 2446, Shelby Co. R. Bower, c/o owner, ch. engr.

Bids Asked February 14

New Jersey—S. Miller, State Hy. Comr., Trenton, borings to determine depth of bed rock in plans for Route 25 A, Newark-Harrison Bridge and Route S 3, Clifton-Rutherford span.

Bids Asked February 17

California—State Div. Hys., Sacramento, repairing 17 bridges at points between Indio and Brawley, Imperial Co. G. T. McCoy, state hy. engr.

Bids Asked February 24

†D. C., Wash.—District Comrs., District Bldg., reconstructing flood of draw span of bridge in line of 11 St. S.E., crossing Anacostia River.

NEW